146320

SITE INSPECTION WORK PLAN

FOR:

Matthiessen and Hegeler Zinc Co.

PREPARED BY

SITE ASSESSMENT UNIT
DIVISION OF LAND POLLUTION CONTROL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62794

CONTENTS

I. SITE INFORMATION

I. GENERAL

Site Name: Matthiessen and Hegeler Zinc Co.

ILD#: Not assigned

Site Location: La Salle, IL

LPC#: Not assigned

SE 1/4 of Sec 10,
SW 1/4 of Sec 11,
NW 1/4 of Sec 14,
NE 1/4 of Sec 15,
in T33N, R1E, 3rd PM.

Work plan prepared by:

Robert Casper

Estimated inspection date:

Dec. 14-16, 1993

Work plan approved by:

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II. THE ASSIGNMENT (briefly describe the objectives of the inspection and how they are going to be accomplished).

The purpose of a Screening Site Inspection is to document site contamination and identify the potential migration pathways where contaminants may be transported. Soil/sediment samples will be collected during the SSI to be used to evaluate the impact of contamination.

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III. SITE DESCRIPTION (briefly describe the site, including location, unique geological features, source(s) of contamination, methods of disposal and current status of activities).

The Matthiessen and Hegeler Zinc Co. contains approximately 160 acres of land located on the eastern edge of La Salle, La Salle County, Illinois. The property is bordered by the Little Vermilion River on the north and east sides and by private residences on the south and west sides. North and east of the site across the Little

Vermilion River lies farmland and a limestone quarry, respectively. The area surrounding the site on the south and west sides is residential. Two active companies, La Salle Rolling Mills and Carus Chemical Company, are located within the site boundaries at the southern portion of the property. Water in the area is obtained from wells with the nearest well being a city of La Salle municipal well located approximately 3700 feet south of the site that draws water from the sand and gravel aquifer. The geology of the area consists of Wisconsin glacial till overlying the bedrock. The bedrock consists of fractured Silurean and Ordovician-aged dolomites and the St. Peter sandstone. The Illinois River lies approximately three-quarters of a mile south and glacial deposits in this area are overlain by alluvial deposits. According to the Soil Survey for La Salle County, May, 1972, by the University of Illinois Agricultural Experiment Station, the land where the property is located is classified as "Industrial Land" in the area west of the Illinois Central Railroad, as "Spoil" in the southeast area between the railroad and the Little Vermilion River, and as "Shale Rockland, 30-60% Slopes", in the northeast area between the railroad and river.

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IV. SITE HISTORY (briefly describe the history of the site including previous owners, reported injuries, complaints, govt. action).

The Matthiessen and Hegeler Zinc Company began operations at the site in 1858 and ceased all operations in 1978. Prior to 1858 the land was owned by the Illinois Central Railroad. In 1866 the facility constructed a zinc rolling mill and in 1871 Edward Hegeler invented a hybrid furnace that used producer gas as fuel. Coal for the process was mined onsite and there

was an onsite gas works. The sulfur dioxide generated during roasting was recovered and converted into sulfuric acid, which was stored in large tanks and sold as a by-product. Matthiessen and Hegeler quit mining coal in 1937 and in 1961 stopped smelting zinc. The manufacture of sulfuric acid was discontinued in 1968 and from 1968 until closing in 1978 the facility only did rolling operations. The land was sold at auction in 1979 and the rolling mills began operation again in 1980 as La Salle Rolling Mills. Carus Chemical Company, located at the south part of the site, began operations in 1915. Old aerial photos of the site indicate that large piles of slag were deposited along the eastern portion of the property adjacent to the little Vermilion River and on Carus Chemical Company property. Also during the years the waste was deposited into the Little Vermilion River and changed its course to an extent. Large piles of wastes are presently adjacent to the river and form portions of its bank.

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II. SAFETY CONSIDERATIONS

I. PHYSICAL HAZARDS AT SITE (briefly describe any physical hazards that the inspection team may encounter at the site).

The site has a steep slope along the east side adjacent to the little Vermilion River. The buildings associated with the smelting and acid production have been torn down and there are large areas of demolition debris onsite. In addition, there is the possibility that the weather at the time of sampling may be cold.

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II. CHEMICAL HAZARDS AT SITE (briefly identify those chemicals that are known or are suspected to be present, include their state and physical characteristics).

A CERCLA Screening Site Inspection was conducted at Carus Chemical Company in November, 1991 by the IEPA. This company is located in the southern portion of the property and analysis of samples collected indicate contamination of the soil sediment and groundwater. Groundwater samples collected from onsite monitoring wells contained arsenic, barium, cadmium, lead and mercury and zinc. Soil samples contained the metals arsenic, barium, cadmium, lead and zinc. Also present were the semivolatiles fluoranthene and pyrene as well as the pesticides Arochlor-1254 and Arochor-1260. Sediment samples contained the semivolatiles Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene and Benzo(b)fluoranthene and the metals arsenic, barium, cadmium, lead, mercury and zinc. Measures will be taken according to the safety plan to protect the team from these hazards.

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III. DERMAL AND RESPIRATORY PROTECTION (identify the level of personal protection that will be used, including anticipated modifications).

Level D protection will be used at all times, with continuous air monitoring during the sample collection. If an increase occurs, the following will be implemented: 0-5 units over background Level C

5-50 units over background Level B

50-500 units over background Level A

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II. LOCATION OF SAMPLES (identify the number of samples, their type and their location. The attached map should identify these locations).

Sample #	Type	Location	Justification
X101	Soil	One and a half miles north.	Background sample collected from farm pasture. Justification: Establish background.
X102	Soil	Area of gas plant	Soil may be contaminated with coal tar. Justification: Source.
X103	Soil	North of old pottery works.	Area contains piles of coal fines and other wastes. Justification: Source.
X104-X106	Soil	Waste piles along river.	Samples obtained from slag and waste piles deposited along the Little Vermilion river. Justification: Source.
X107 X108	Soil	Acid tank area.	Area where large sulfuric acid tanks once stood has a sulfurous odor. Duplicate sample also collected here. Justification: Source.
X109	Soil	Rusted drum area.	Site contains a pile of rusted 55-gallon drums. Contents are unknown and may have contained hazardous wastes. Justification: Source.
X110	Soil	Field in the northwest part of the site.	Site contains a grassy area adjacent to private residences. This area may have once contained wastes. Justification: Source.
X111-X113	Soil	Schools and Daycare. DEPTH = 0-1"	Samples obtained from playgrounds at St. Hyacinth, Lincoln Jr. High and a day care center, located approximately .4 mile from the site. Samples will be analyzed for inorganic compounds only. Justification: Targets.
X114-X124	Soil	Private residences. DEPTH = 0-1"	Private residences around the site will be sampled for inorganic compounds to determine if any heavy metal contamination has occurred. Justification: Targets.
X201	Sediment	Little Vermilion River	Background sample collected approximately one and a half miles north of the site. Justification: Establish background.

X202	Sediment	Little Vermilion River	Sample obtained from wetland located at a bend in the river. Sampling point is located in the northeast corner of the site. Justification: Target (wetland).
X203 X204	Sediment	Little Vermilion River	Water from site seeps into old city of La Salle sewer and enters the Little Vermilion River. Duplicate sample X205 also collected at this point. Justification: Target (wetland).
X205	Sediment	Little Vermilion River	Large pile of wastes form the bank of the river in this area. Sampling point is on land currently owned by Carus Chemical Co. Justification: Target (wetland).

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III. ANALYTICAL SERVICES (identify the laboratory that will perform the analysis of the samples taken at the site, include requested analysis)

The samples will be analyzed for the target compound list. The samples will be analyzed at Illinois EPA laboratories. The organic parameters will be analyzed at the IEPA's Springfield lab and the inorganic parameters will be analyzed at the IEPA's Champaign lab.

ATTACHMENT I

RECORDS AND DOCUMENTATION (Check the records or documents that will be generated during this project)

- X Work Plan
- X Safety Plan
- X Sampling Plan
- X Equipment Checklist
- X Log Book
- X Chain of Custody Records
- X Sample Analysis Records
- X Photographs
- Drilling Logs
- X Correspondence
- X Personal Interview Tapes or Transcripts
- X Maps
- Instrument Calibration Records
- Procurement Documents
- X Site Inspection Form (2070-13)
- X HRS Scoring Package
- Other (specify)

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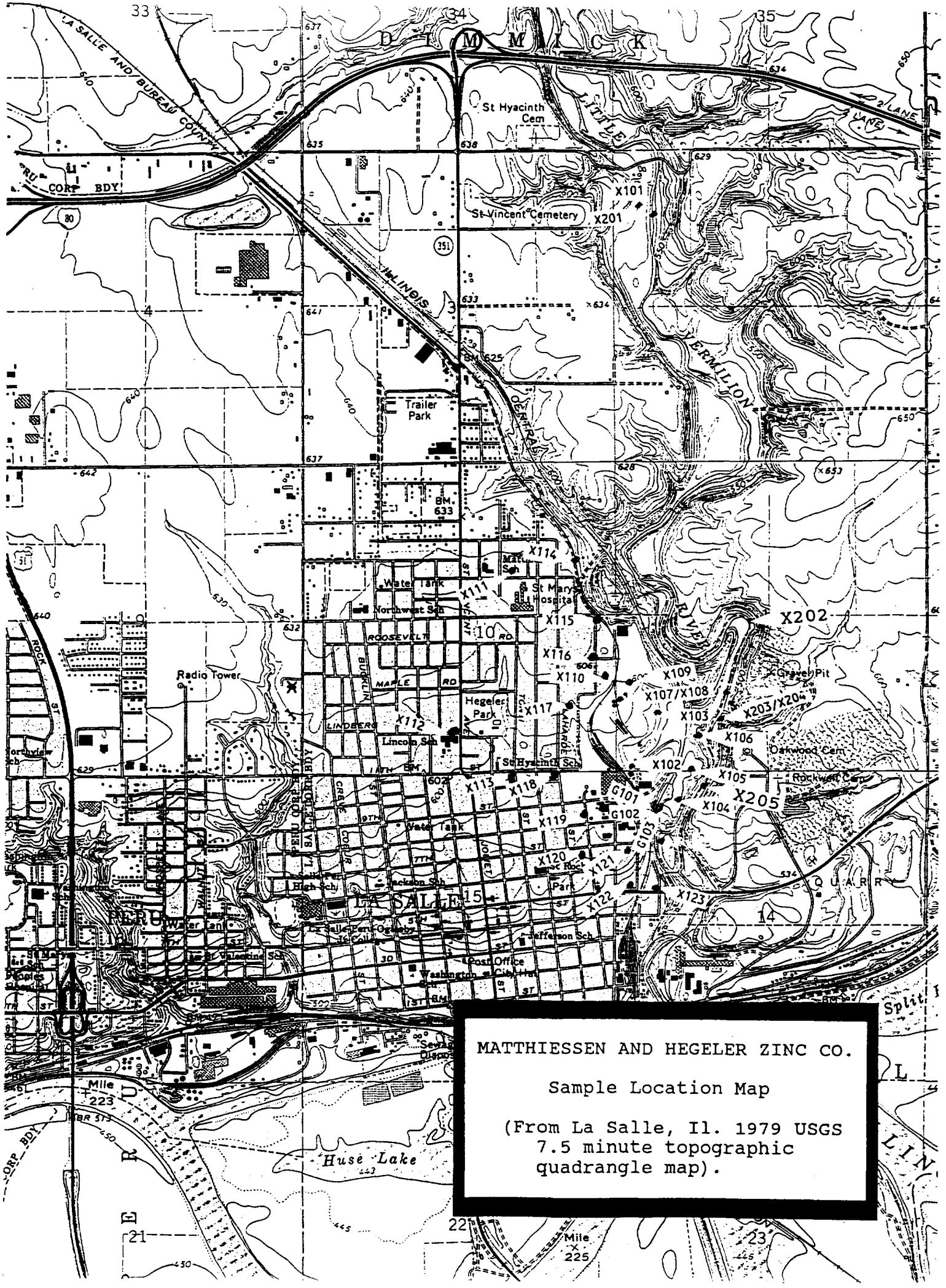
MATTHIESSEN AND HEGELER ZINC CO.
Sample Location Map
(From La Salle, Il. 1979 USGS 7.5 minute topographic quadrangle map).